THEATER PARAMETER MANAGEMENT APPARATUS AND METHOD

CROSS REFERENCE TO RELATED APPLICATION

This application claims the priority of Korean Patent Application No. 10-2013-0101353, filed on Aug. 26, 2013 in the KIPO (Korean Intellectual Property Office), which is incorporated herein by reference in its entirety.

TECHNICAL FIELD

The present invention relates to a theater parameter management apparatus and method, and more specifically, to a theater parameter management apparatus and method, which can create parameters related to the structure or characteristics of a theater and utilize the created parameters in a data processing procedure (e.g., image correction, simulation of a view of showing an image or the like) related to operation of a multi-projection system.

BACKGROUND ART

Conventionally, in order to play back an image such as a movie, advertisement or the like in a theater, a two-dimensional image is projected on a single screen placed on the front side of the theater. However, the audience has no choice but to watch only the two-dimensional (2D) image in such a system.

Recently, techniques related to 3D images have been developed to provide images having a sense of depth to the audience, and the 3D image techniques use a principle of feeling a sense of depth even from a planar image if different images respectively enter left and right eyes of a person and merge together in the brain, in which two cameras having different polarized light filters are used when an image is taken, and a user wears glasses or the like having polarized light filters when watching the image so that different images may enter the left and right eyes.

However, although the 3D technique may provide an image having a sense of depth to a user, there is a limit in that it is difficult to be absorbed in the image itself since it is merely watching an image played back on a single screen. In addition, there is also a limit in that the direction of the sense of depth felt by the audience is restricted to the direction where the single screen exists. In addition, since the conventional 3D technique requires the audience to wear glasses or the like having polarized light filters when watching an image, it is inconvenient for the audience who watch the image, and since different images are artificially and forcibly injected into the left and right eyes, sensitive audience may feel dizzy or nausea.

Accordingly, a so-called 'multi-projection system' which can solve the problems of the conventional projection system based on a single screen has been proposed, and the 'multi-projection system' mentioned here means a technique capable of providing a sense of depth and a sense of immersion to the audience by arranging a plurality of projection surfaces around the audience seats and playing back an image having a sense of unity on the plurality of projection surfaces.

Meanwhile, in order to efficiently perform a data processing operation (e.g., image correction, simulation of a view of showing an image or the like) related to the operation of the 'multi-projection system', a technique of creating information on the 'structure of a theater' and utilizing the information for data processing is needed. It is since that because the 'multi-projection system' should implement a plurality of projection surfaces unlike a conventional projection system which includes only a single projection surface, the system should be constructed in a different form according to the 'structure of a theater' and should perform a different data processing operation (e.g., image correction, simulation of a state of showing an image or the like) according to the 'structure of a theater'.

However, in a conventional projection system installing only a single screen, such a technique does not exist.

Accordingly, in relation to the operation of the 'multi-projection system', a technique capable of creating information related to the structure of a theater and utilizing the created information for a variety of data processing operations is required.

DISCLOSURE OF INVENTION

Technical Problem

Therefore, the present invention has been made in view of the above problems, and it is an object of the present invention to create parameters related to the structure or characteristics of a theater and utilize the created parameters in a data processing procedure.

Another object of the present invention is to perform a data processing operation (e.g., an image processing process, simulation of a view of showing an image or the like) related to the operation of a multi-projection system based on the parameters showing the structure or characteristics of a theater.

Technical Solution

To accomplish the above objects, according to one aspect of the present invention, there is provided a theater parameter management apparatus including: a parameter creation unit for creating parameters showing a structure of a theater based on input information; a database for storing the parameters created by the parameter creation unit; and a data processing unit for performing a data processing using the parameters stored in the database.

In addition, the theater is a multi-projection theater for providing images through a plurality of projection surfaces, and the data processing unit creates or corrects the images to be played back on the plurality of projection surfaces using the parameters stored in the database.

In addition, the theater is a multi-projection theater for providing images through a plurality of projection surfaces, and the data processing unit simulates a view of providing the images through the plurality of projection surfaces using the parameters stored in the database.

In addition, the plurality of projection surfaces includes a main screen and structure surfaces.

In addition, the parameter creation unit creates a parameter showing a size of the theater, a parameter showing arrangement of a main screen, a parameter showing arrangement of audience seats, or a parameter showing arrangement of projectors.

In addition, the parameter showing a size of the theater includes a parameter showing a width of the theater, a parameter showing a height of the theater, and a parameter showing a depth of the theater.

In addition, the parameter showing arrangement of a main screen includes a parameter showing a ratio of the main screen, a parameter showing a screen top offset of the main